

FIG. 1A

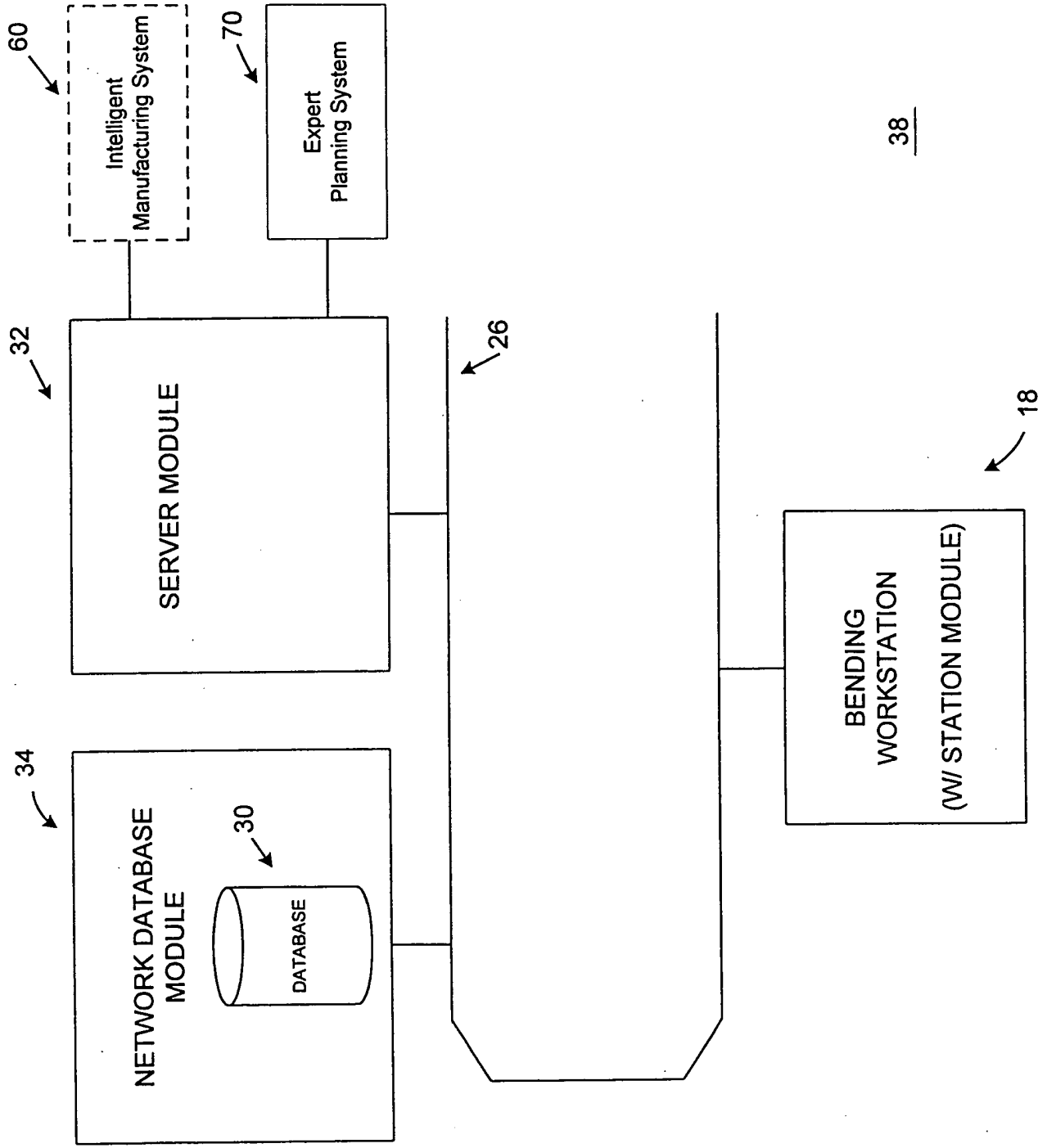


FIG. 2

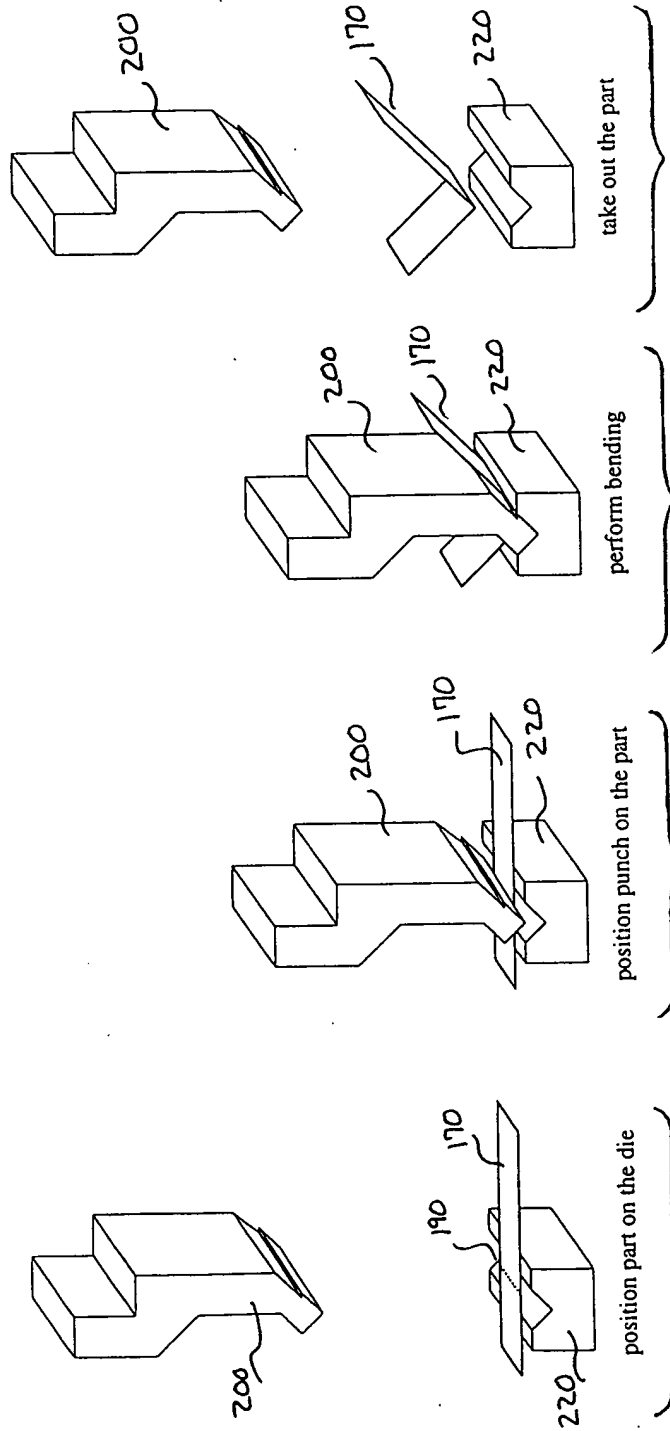


FIG. 4A

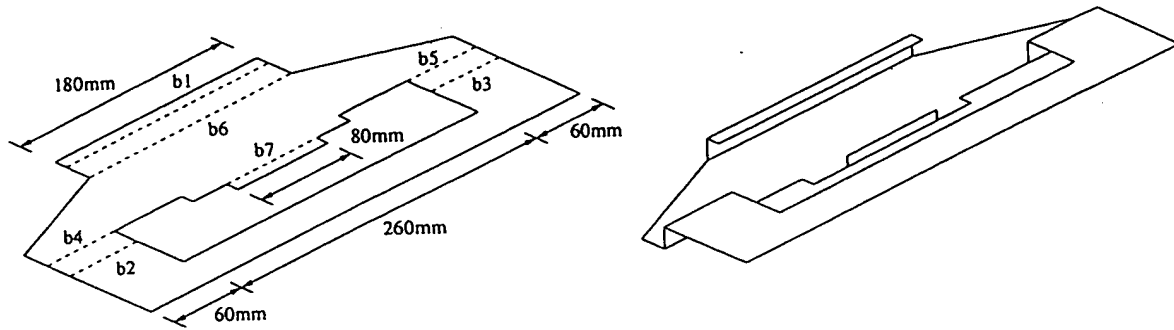


FIG. 4B

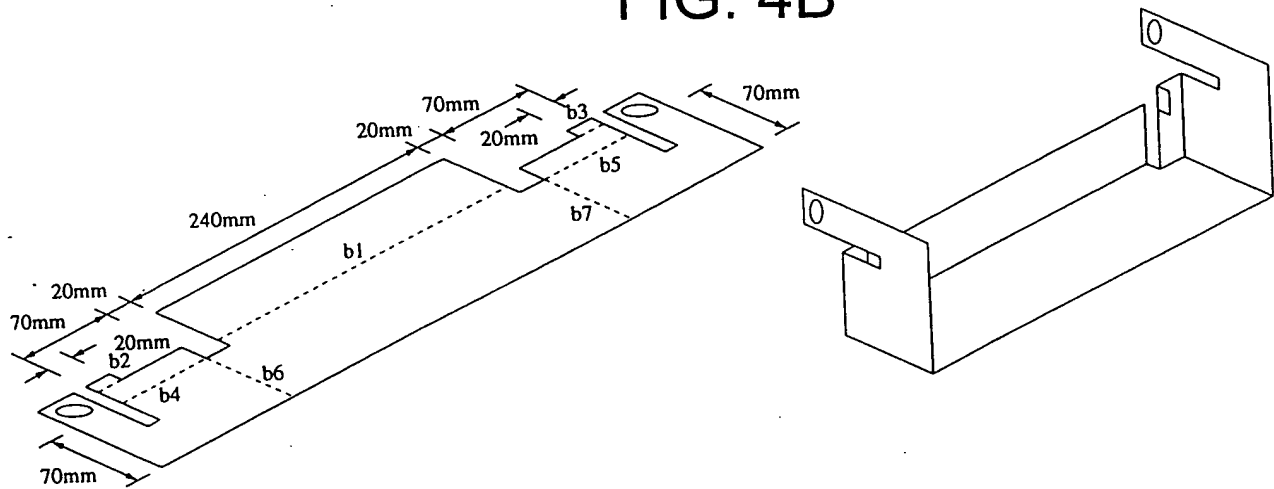


FIG. 4C

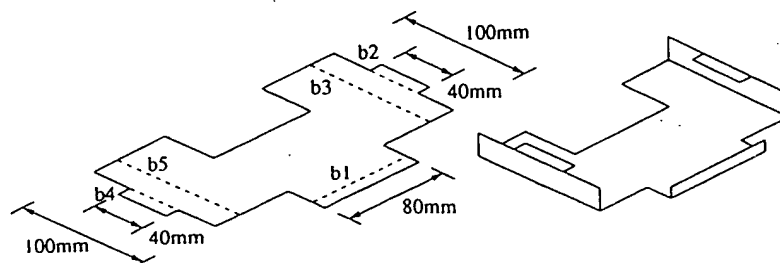


FIG. 4A

FIG. 5A

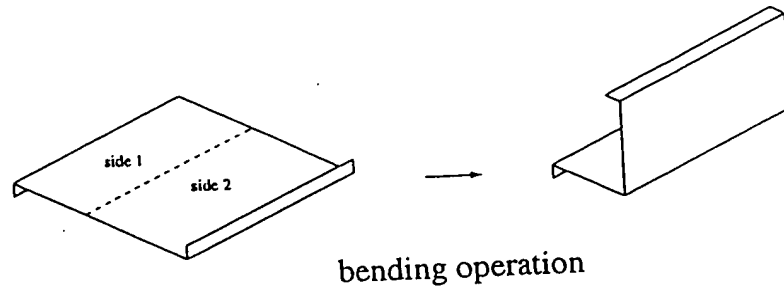


FIG. 5B

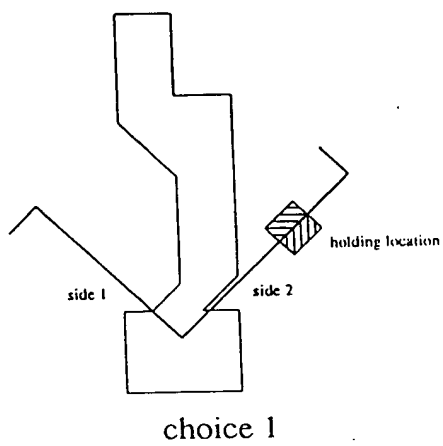


FIG. 5C

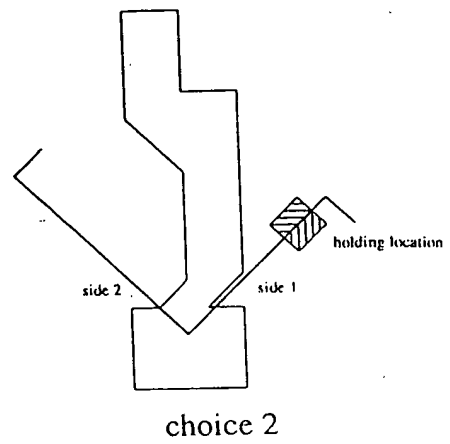
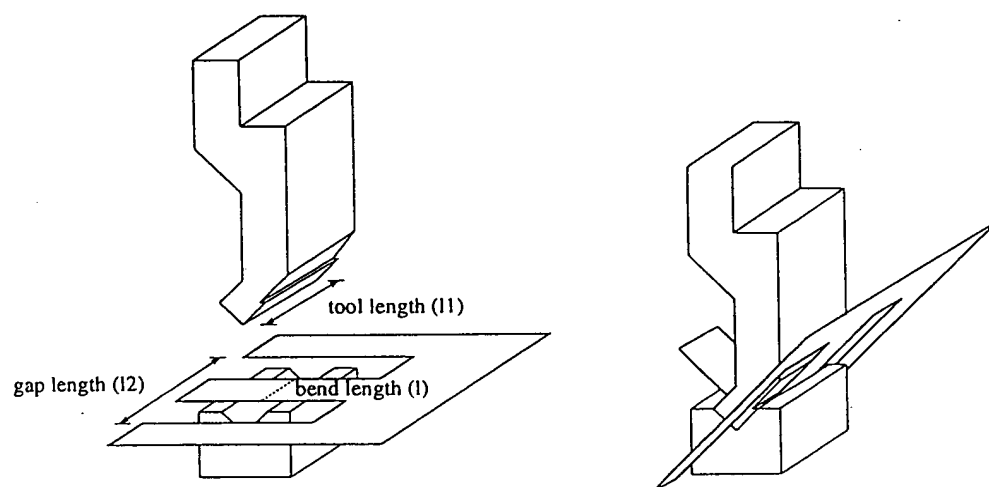


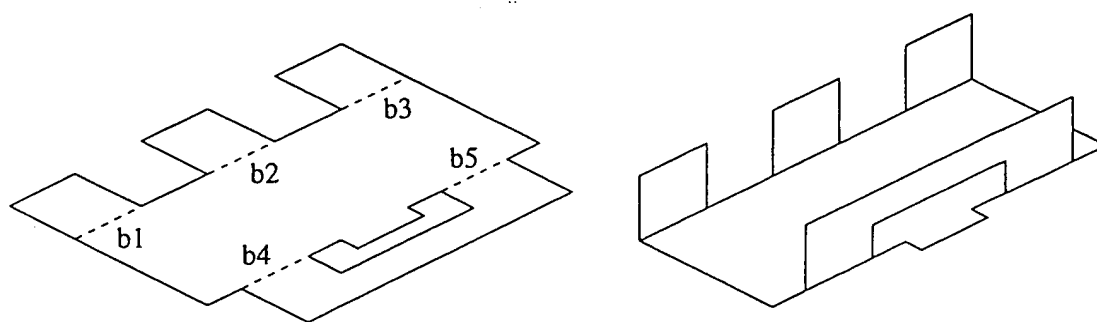
FIG. 6



An example of setup constraint

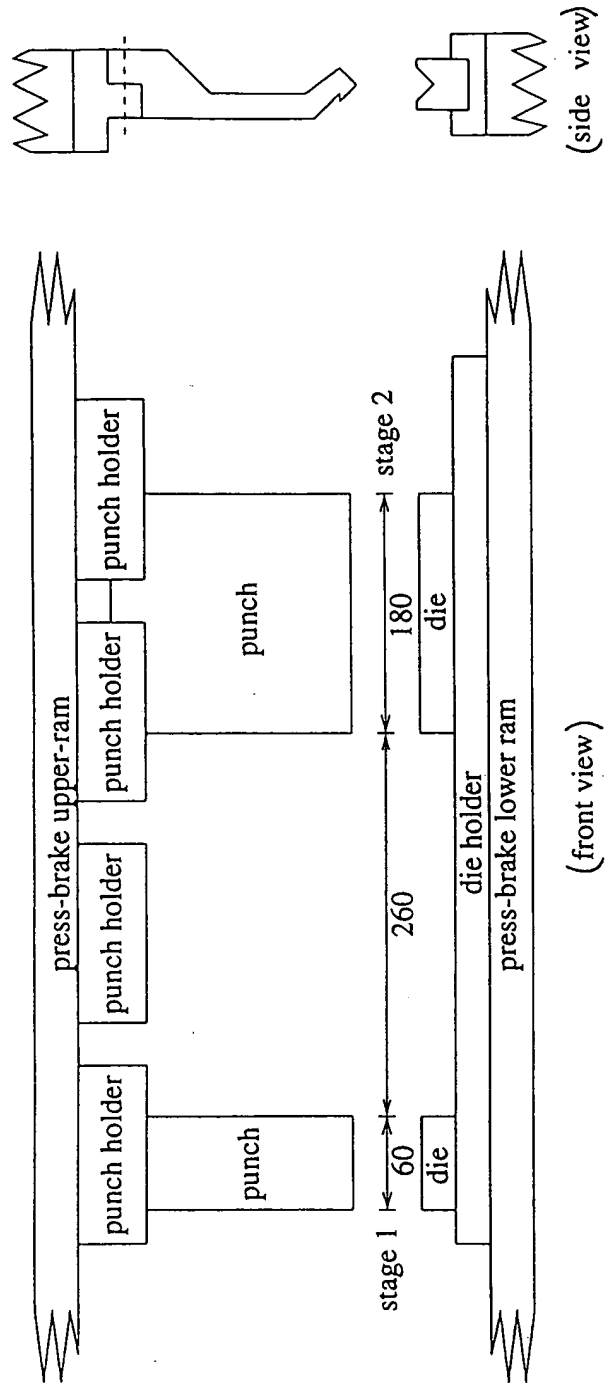
09818505.032801

FIG. 7



Colinear bends

FIG. 8



A bending press-brake setup

FIG. 9B

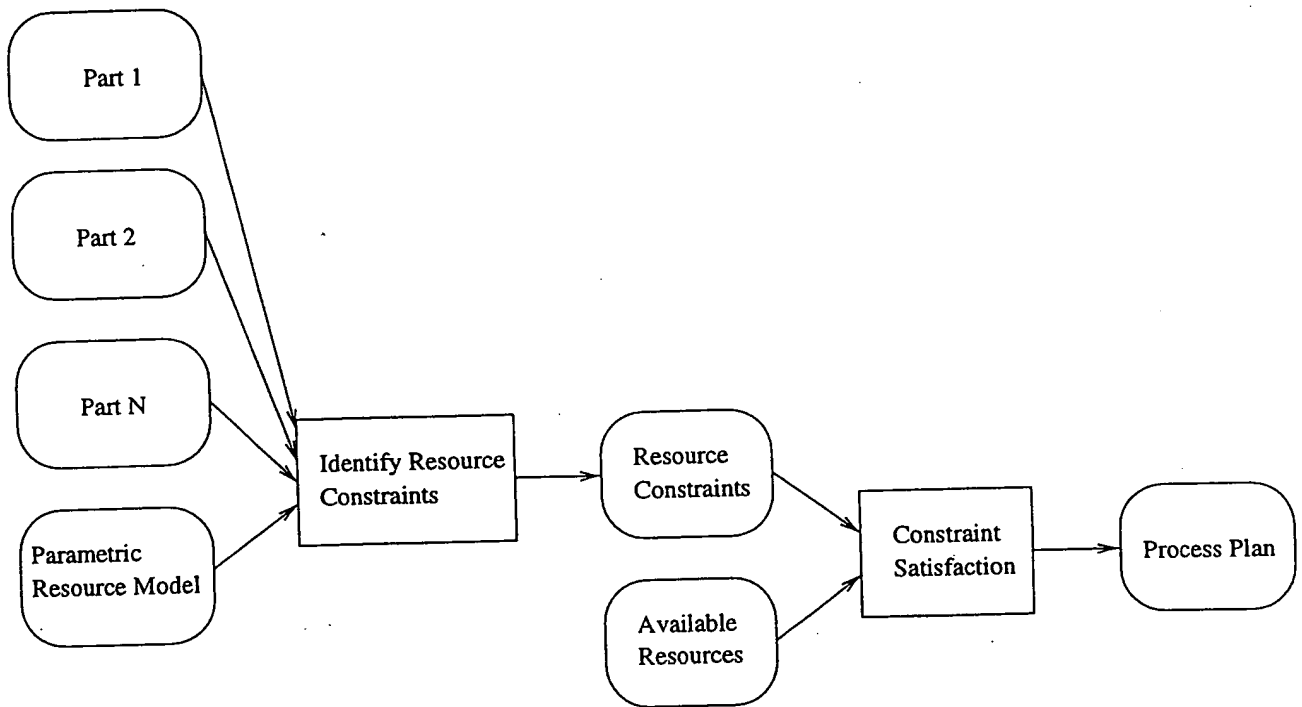
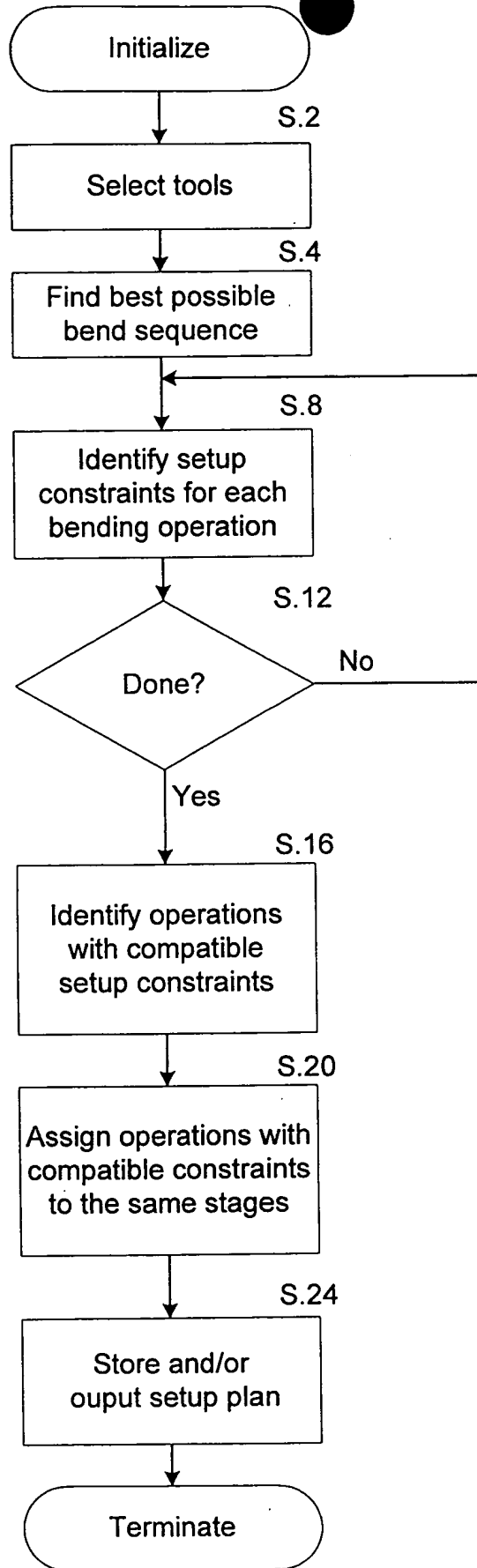


FIG.10



Generating setup constraints

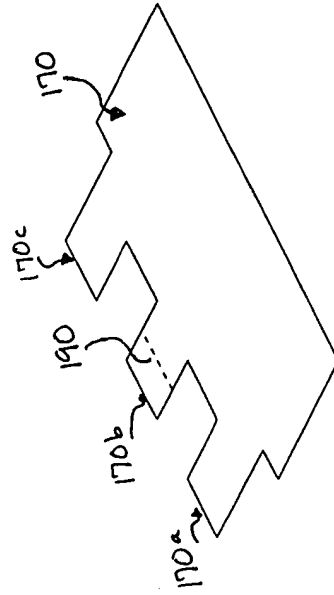


FIG. 11A

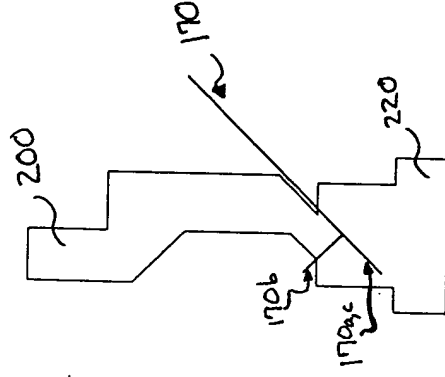


FIG. 11B

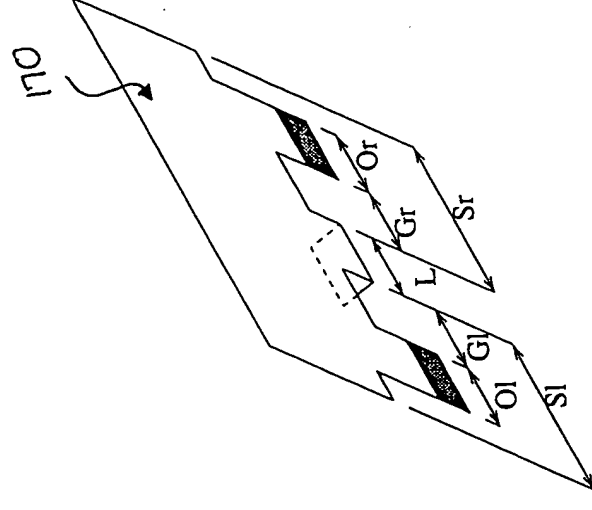
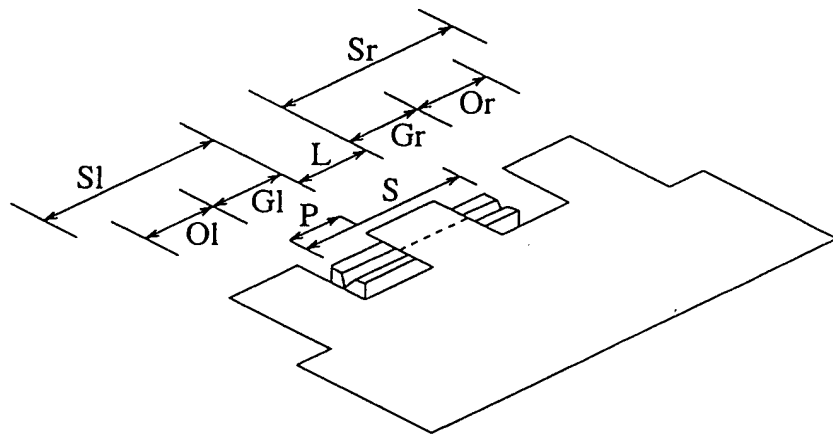


FIG. 11C

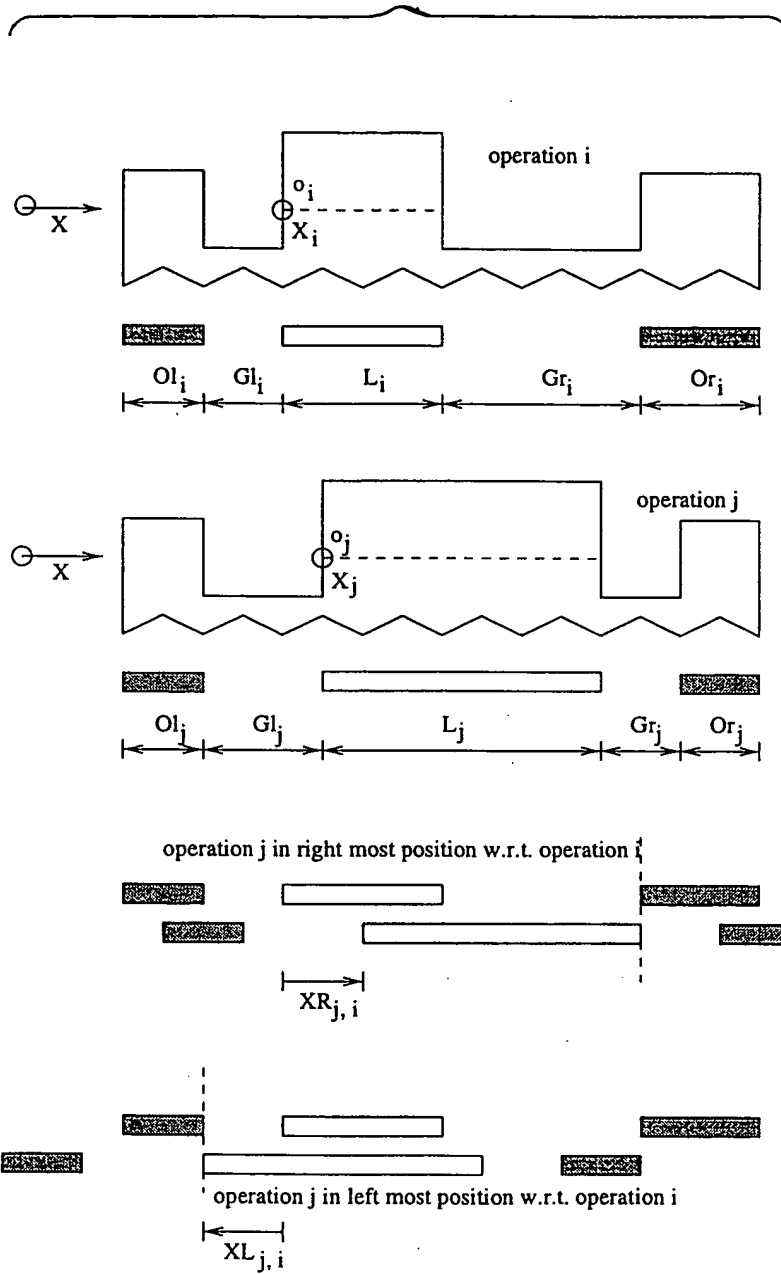
FIG. 12



Setup constraint parameters

09818505-032801

FIG. 13



Compatibility of setup constraints.

09818505-032801

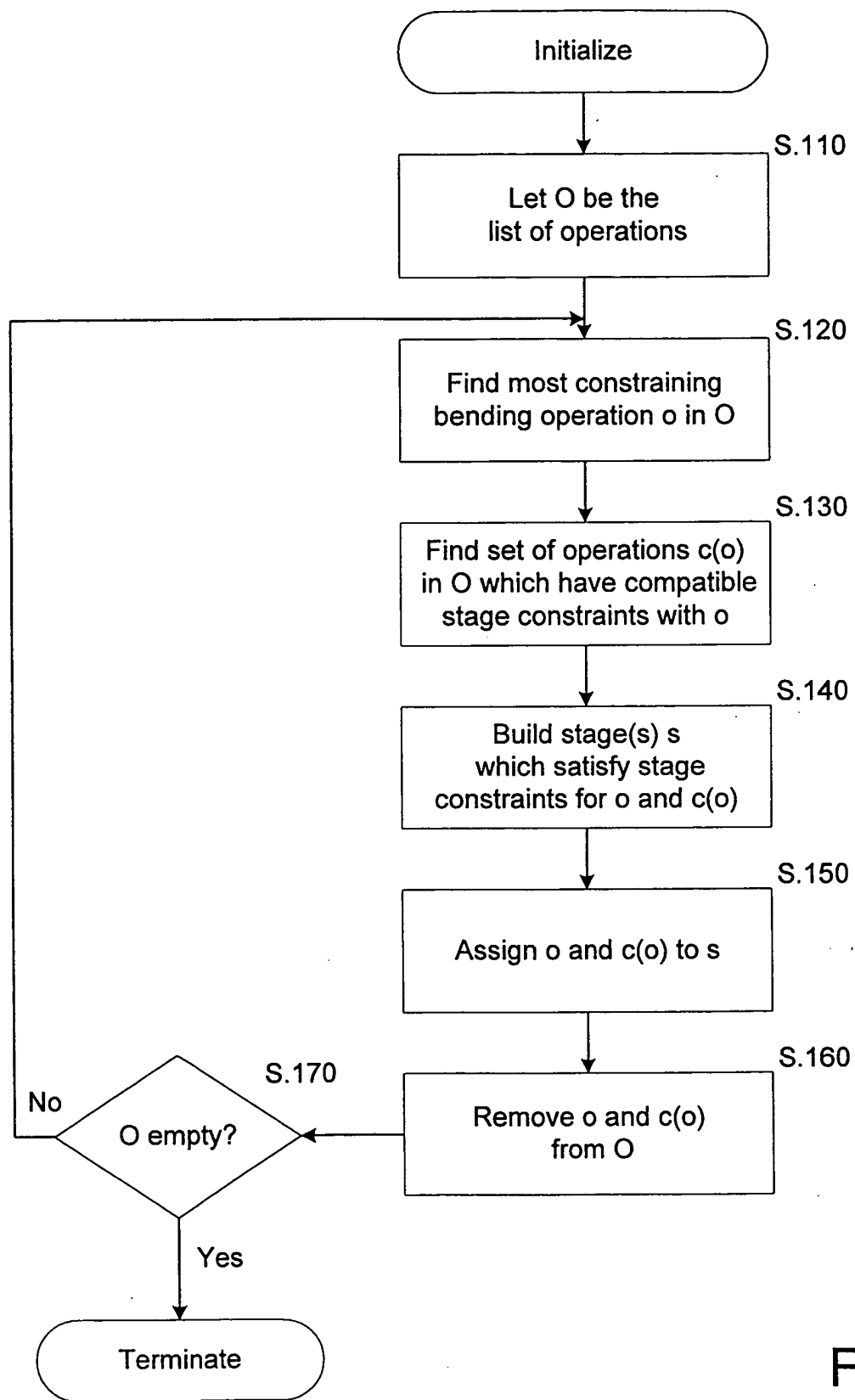


FIG. 14

FIG. 15A (PRIOR ART)

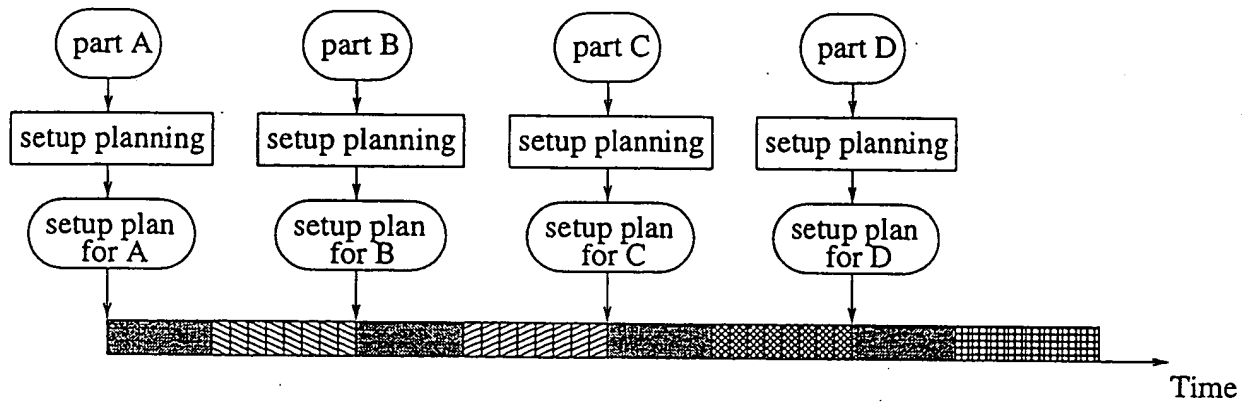


FIG. 15B

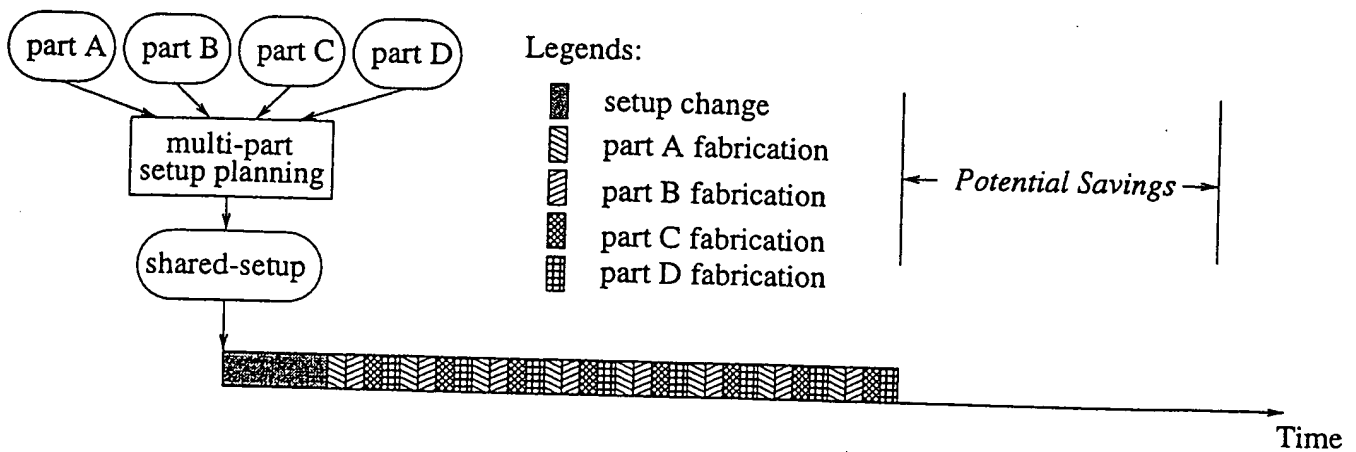


FIG. 16A

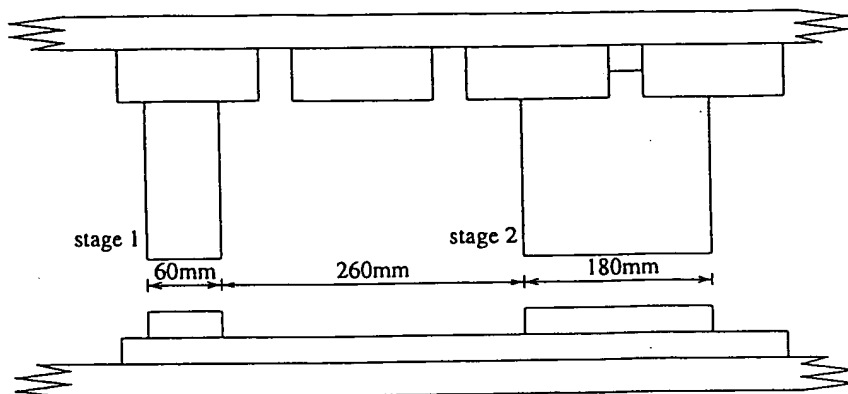


FIG. 16B

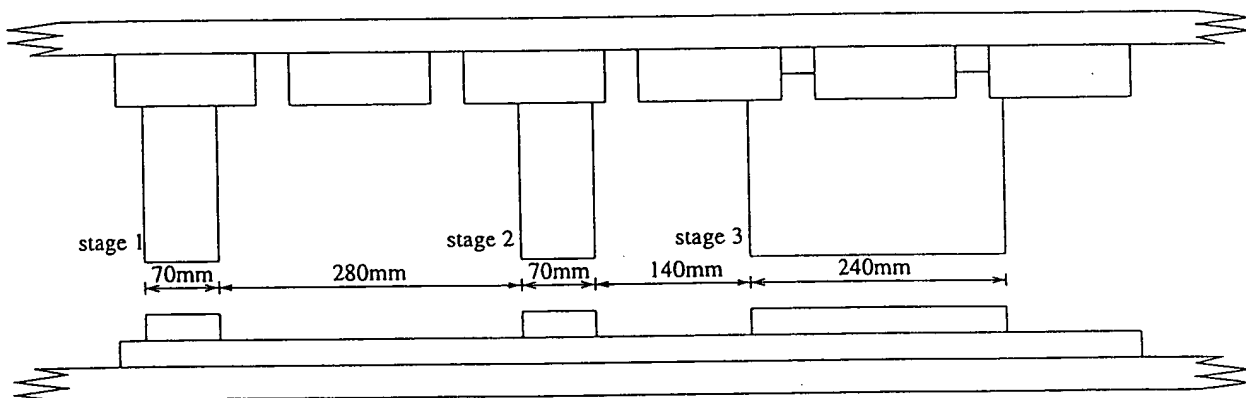


FIG. 16C

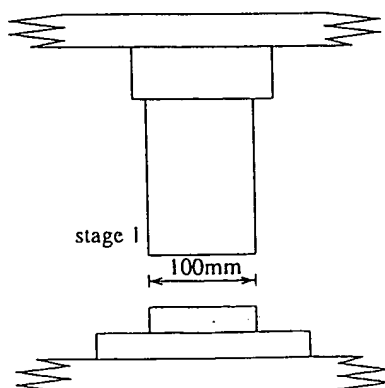
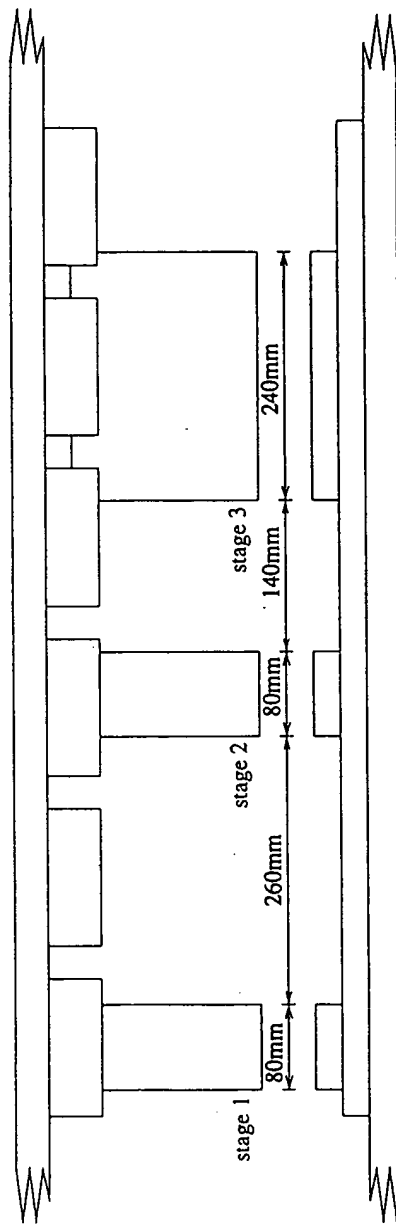


FIG. 17



Composite setup for all three parts